OHM Remediation Services Corp.
A Subsidiary of the IT Group

The IT Group ▪ 2790 Mosside Blvd ▪ Monroeville, PA 15146-2792 (800)444-9586

Former NTC Bainbridge, Port Deposit, MD	***Site Removal Actions***	***Date: 15-Oct-99***
Contract N62470-93-D-3032 D.O. # 137	***Project No. 919568***	***Title: memo~31***

TO: Frank Zepka [Navy], Mary Cooke [U.S. EPA Region III], Bill Schmidt [MDE], Kim LeMaster [MDE]
FROM: Larry Stearns
COPIES: Project File
SUBJECT: Transmittal of Project Close-Out Reports:
Volume 6 of 8: Building 760 – Auto Hobby Shop

Enclosed are the following copies of the above referenced document:

- U.S. EPA – Region III: 3 copies of report
- MDE: 2 copies of report
- Navy: 5 copies of report

These reports do not include the raw laboratory analytical data except as necessary for the data validation according to U.S. EPA – Region III procedures.

Please forward any comments to Mr. Frank Zepka at the Navy.

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation

CONTRACTOR CLOSE-OUT REPORT
SITE CLEAN-UP AND REMOVAL ACTIONS
FORMER NAVAL TRAINING CENTER - BAINBRIDGE
PORT DEPOSIT, MARYLAND

VOLUME 6
BUILDING 760: AUTO HOBBY SHOP

Prepared for:

DEPARTMENT OF THE NAVY
Contract No. N62470-93-D-3032: D.O. 137
Engineering Field Activity - Chesapeake
Naval Facilities Engineering Command
901 M Street S.E. (Building 212)
Washington, D.C. 20374-5018

Prepared by:

OHM Remediation Services Corporation
The IT Group
2790 Mosside Boulevard
Monroeville, Pennsylvania 15146-2792

Reviewed by:

Lawrence J. Stearns, P.E.
Project Manager

Roland S. Moreau, P.E.
Program Manager

October 15, 1999
OHM Project 919568

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ACRONYMS

Acronym	Title
OHM	*OHM Remediation Services Corporation, a subsidiary of The IT Group*
EPA	U.S. Environmental Protection Agency – Region III
MDE	Maryland Department of the Environment
NTCB	Former Naval Training Center Bainbridge
PCB	polychlorinated biphenols
Arochlor	a chemical form of PCB's
TSCA	Toxic Substances Control Act
mg/kg	milligram per kilogram [parts per million]
TSD	treatment, storage, and disposal facility
TPH	Total Petroleum Hydrocarbon
DDT	Dichlorodiphenyltrichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDD	Dichlorodiphenyldichloroethane
TCDD	Tetrachlorodibenzo-*p*-dioxin
ppt	parts per trillion [picograms per gram]
TCE	Trichlorobenzene
DCE	Dichlorobenzene
POL	petroleum, oil, and lubricants

1.0 INTRODUCTION

OHM Remediation Services Corp. [OHM] was contracted by the Navy to perform environmental remediation at the former Naval Training Center Bainbridge [NTCB] near Port Deposit, Maryland. This report documents a portion of the work performed on this project by OHM under federal contract N62470-93-D-3032, Delivery Order No. 137 issued 5 February 1997. Specifically, this report addresses the remediation at Building 760 – Auto Hobby Shop. Refer to drawing RD-01 for locations.

1.1 PROJECT BACKGROUND

Design and construction of NTCB began in 1942 initially building from the property of the former Tome Institute School. NTCB served as a boot camp for Navy recruits during World War II and the Korean War and was permanently closed in 1976. The facility encompasses approximately 1,250 acres and consists of roads, drill fields, and about 60 remaining buildings. Most buildings and structures within NTCB were demolished during the last 10 years. Since deactivation, NTCB has become extensively overgrown and has been little used in the past two decades.

The U.S. Department of the Navy currently owns NTCB, but transfer of ownership to the State of Maryland is in progress pending resolution of various environmental and other issues. State and local agencies are planning to develop NTCB, possibly for commercial and residential use. The remediation discussed in this report is part of a larger environmental remediation effort by the Navy at NTCB.

1.2 GENERAL SCOPE OF WORK

The scope of work for the Building 760: Auto Hobby Shop involved removing a pile of road salt, removing a POL underground storage tank, cleaning concrete automobile oil changing pits, and excavating POL impacted soils from the hillside west of the building.

This report will focus on the soil excavations involved with the hillside and UST locations because they represent the "left-in-place" condition. Both removals were to achieve the cleanup levels for TPH given in Table 1. The other remediation tasks are addressed in either Volumes 1 or 2 of 8. During the execution of this work, OHM used the following subcontractors for waste disposal or analytical services.

- Non-hazardous solid waste disposal – Soil Safe Inc., 4600 East Fayette Street, Baltimore, Maryland 21224; (800) 562-4365.
- Laboratory analytical work – OHM Remediation Services Corp. – Analytical Division, 16406 U.S. Route 224 East, Findlay, Ohio 45839-0551; (419) 423-3526.
- Laboratory analytical work - Gascoyne Laboratories, Inc., 2101 Van Deman Street, Baltimore, Maryland 21224 (410-633-1800).

1.3 PROJECT CLEANUP LEVELS

The project cleanup levels listed in Table 1 were established by the Navy with the concurrence of the EPA and MDE. Remediation continued until all of the confirmation analyses gave results that did not exceed the cleanup level(s) for the particular chemical(s) of concern at a specific location. Although laboratory analyses other than those listed in Table 1 may have been performed and may be reported in this document, the Table 1 values were the only cleanup levels specifically established for NTCB.

For the Building 760: Auto Hobby Shop, the chemicals of concern for cleanup levels were:

- Total Petroleum Hydrocarbon

Table 1: Project Cleanup Levels Applied at Various NTCB Locations

Chemical of Concern	Cleanup Level	Units	Units	Intended Matrix
Total Petroleum Hydrocarbons	100	mg/kg	ppm	Soil
DDT	4.3	mg/kg	ppm	Soil
DDE	16.3	mg/kg	ppm	Soil
DDD	23.1	mg/kg	ppm	Soil
Alpha Chlordane	4.1	mg/kg	ppm	Soil
Gamma Chlordane	4.1	mg/kg	ppm	Soil
Heptachlor Epoxide	0.4	mg/kg	ppm	Soil
Antimony	27	mg/kg	ppm	Soil
Lead	400	mg/kg	ppm	Soil
Benzo (a) pyrene	2.0	mg/kg	ppm	Soil
Total PCB	10	mg/kg	ppm	Soil
Total PCB	10	mg/kg	ppm	Concrete
Total PCB	10	mg/kg	ppm	Non-porous Surfaces
Total PCB	50	mg/kg	ppm	Encapsulated Concrete

2.0 SUMMARY OF WORK PERFORMED

The following sections summarize the remediation work performed for the site cleanup action at Building 760 – Auto Hobby Shop. The location is shown on drawing RD-01.

2.1 LOCATION INVESTIGATION AND INITIAL REMOVALS

The initial investigation of this location was performed by others. The hillside area had POL impacted soils extending approximately 60-feet downslope from a 3-inch diameter discharge pipe at a small wingwall. The width of impacted soils varied from 2 to 20-feet wide increasing downslope, and the impacted soil depth was 1 to 2-feet. The 3-inch pipe discharged rain water from the two automobile oil changing pits.

The 1,500 gallon steel UST was discovered by Mr. Brown Roe of the MDE Oil Control Program on 18-Mar-97. Further details of the UST remediation at Building 760 are provided in Volume 2 of 8: Storage Tanks.

2.2 REMOVAL ACTION

The following summarizes the impacted soil removal actions performed during the site remediation. During this work, close communication was maintained with the Navy, EPA, and MDE representatives regarding the remediation progress and decisions about confirmation analytics.

The hillside POL area was excavated and the soil disposed of as non-hazardous waste. A second removal was performed when the initial TPH confirmation samples indicated non-attainment areas remained. These second excavations were re-sampled for confirmation.

The contents of the UST were removed for disposal and the tank was pulled from the ground. The piping was disconnected and disposed with the cleaned tank as scrap. There was no visible or observable indication that the storage tank had leaked and the piping connected only to the building, not to the hillside.

2.3 SITE RESTORATION

The hillside excavation was backfilled with 6 to 12-inches of topsoil, graded, seeded with grass, and mulched with straw following remediation. The piping leading from the remediated automobile oil changing pits to the hillside was not plugged allowing stormwater to drain from the pits. To prevent erosion, the discharge area was armored with stone. The underground storage tank excavation was backfilled with compacted soil and covered with a stone surface.

3.0 CLEANUP CONFIRMATION

The following discussion summarizes the confirmation analyses that represent the hillside and UST locations at the completion of remediation. The sample locations are shown on drawing RD-04.

3.1 CONFIRMATION APPROACH

This discussion is a synopsis of the approach to confirmation sampling and analyses that was presented in the OHM Work Plan dated 18-Apr-97 and the OHM Work Plan Addendum No. 3 dated 22-Jun-99.

The hillside was divided into the "upper" and "lower" halves following the excavation of POL impacted soils. One 5-point composite was collected from each half for TPH analyses [Samples 56 and 57]. Later at the request of the EPA, five grab samples were collected from below the backfill soil over the "whole" hillside area for TAL metals analyses [Samples 025-01 through 025-05]. One 5-point composite soil sample was collected from the floor and walls of the UST excavation for TPH analysis [Sample 49].

3.2 LABORATORY ANALYTICAL RESULTS

The upper hillside sample had 21 mg/kg TPH while the lower hillside sample had 100 mg/kg TPH. The TAL metals results from the five hillside samples were below the laboratory reported detection limit for total antimony and were 22 mg/kg or lower for total lead. The soil composite from the UST excavation was below the laboratory reported detection limit for TPH.

3.3 CLEANUP CONFIRMATION RESULTS

All sample results were below the project cleanup levels given in Table 1. Based on these laboratory confirmation analytical results, the cleanup levels were achieved at the Building 760 – Auto Hobby Shop.

APPENDIX A
PHOTOGRAPHS

Photo 1. Location of Salt Pile - Auto Hobby Shop 4/11/97

Photo 2. Auto Hobby Shop Service Pits 4/11/97

Photo 3. Service Pits Filled with Crushed Concrete 4/11/97

Photo 4. UST Removal - Auto Hobby Shop 4/11/97

Photo 4. UST Removal 4/1/97

Photo 5. UST Removal 4/11/97

Photo7. Soil Stock Pile from UST Removal 4/11/99

Photo 8. Silt Fence Installation and Packing of Auto Hobby Shop Slope 5/15/99

Photo 9. Hobby Shop Slope Seeded and Matted 5/15/99

APPENDIX B
RECORD DRAWINGS

IMAGE	X-REF	OFFICE	DRAWING NUMBER
---	---	Pittsburgh, PA	19568-F28

SUSQUEHANNA RIVER

PORT DEPOSIT

1 PORT DEPOSIT

2 TOME INSTITUTE

3 CAMP ROGERS

4 CAMP SEMMES

5 SEWAGE PLANT

6 CAMP PERRY

7 CAMP BARNEY

8 HOSPITAL

9 GATE 14

10 RAIL YARDS

11 CAMP JAMES

12 MANOR HEIGHTS

13 GATE 27

AUTO HOBBY SHOP BUILDING 760

RUBBLE LANDFILL

OLD LANDFILL

MD ROUTE 276

MD ROUTE 222

MD ROUTE 275

MAIN GATE

WATER TREATMENT PLANT

SEWAGE TREATMENT PLANT-(692)

717 - FIREFIGHTER TRAINING CENTER

CECIL COUNTY COMMUNITY COLLEGE TRUCK DRIVING SCHOOL

GATE 19 BLOCKED BY BARRIER

ROAD BLOCKED BY BARRIER

ROAD BLOCKED BY EARTH BERM

ROAD BLOCKED BY GUARD RAIL

BASE PERIMETER FENCE DOWN ON GROUND

DAWN'S CHASE HORSE FARM OWNED BY D.C. WHITAKER

SUNRISE ELEMENTARY SCHOOL

LEGEND:

- MW544 ⊕ EXISTING MONITORING WELL
- WETLANDS LOCATION
- APPROXIMATE BASE BOUNDARY
- STREAM
- TRANSMISSION LINE (DELMARVA)
- UNOCCUPIED EXISTING BUILDING
- FORMER BUILDING LOCATION
- OCCUPIED EXISTING BUILDING

SCALE
350 0 350 700 FEET

REV.	DATE	BY	CHK'D	APP'VD	DESCRIPTION/ISSUE
					REVISIONS

OHM Remediation Services Corp.
PROJECT NO. 919588

DESIGNED BY	M.MARWICK	10/13/97	
DRAWN BY	M.MARWICK	10/13/97	CHECKED BY L.STEARNS 10/13/97
			APPROVED BY L.STEARNS 10/07/98

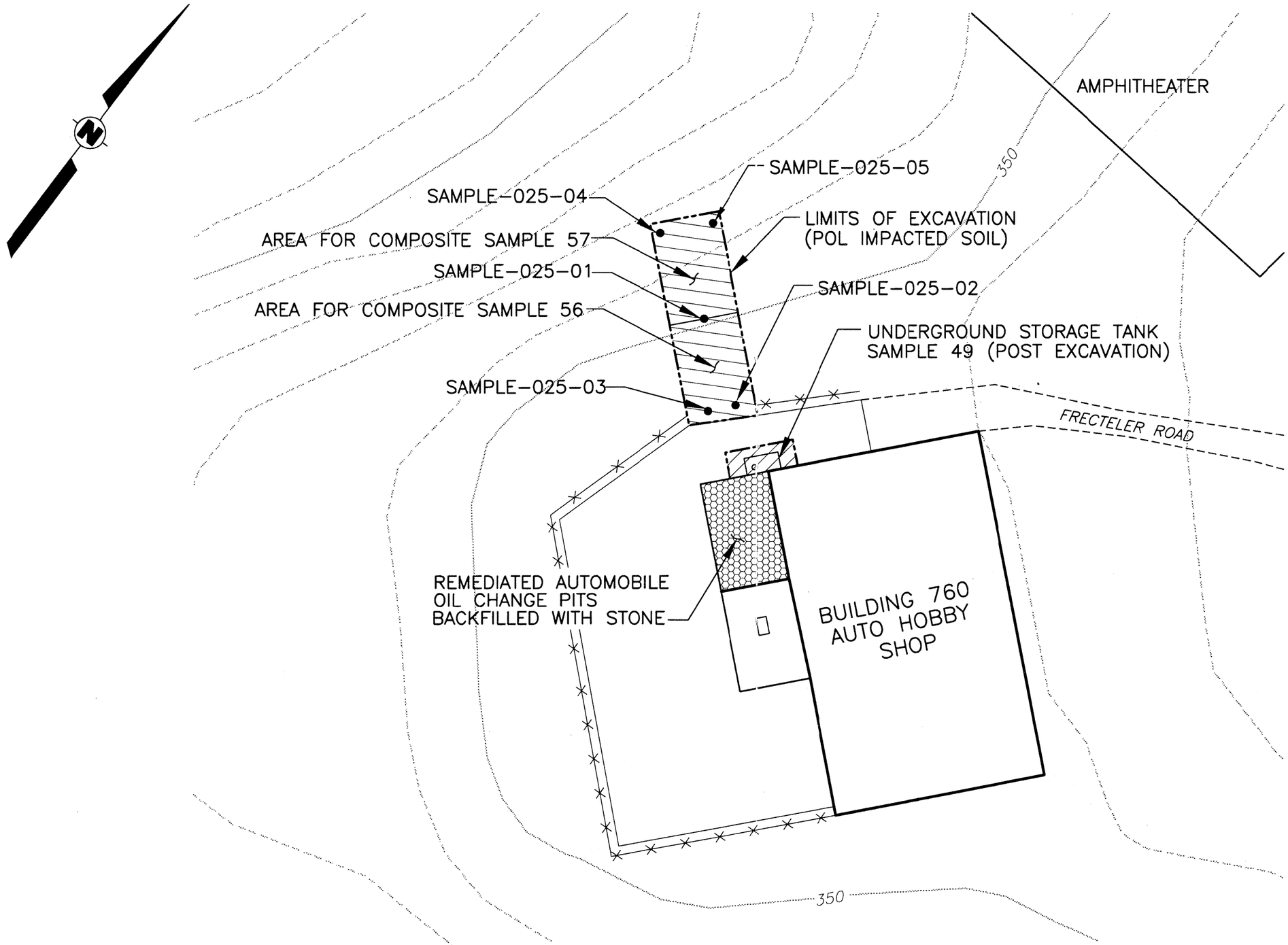
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
WASHINGTON, D.C.
NAVAL STATION
NAVAL TRAINING CENTER - BAINBRIDGE
PORT DEPOSIT, MARYLAND
SITE CLEAN-UP AND REMOVAL ACTIONS

LOCATION OF REMEDIATION SITE

SEAL AREA

SCALE: AS SHOWN	SIZE: F
DELIVERY ORDER NO. 137	
CONSTR. CONTRACT NO. N62470-93-D-3032	
NAVFAC DRAWING NO.	
SHEET I.D. RD-1	

PLOT DATE: 10/13/99
FORMAT REVISION 3/25/99



BUILDING 760: AUTO HOBBY SHOP – SAMPLING LOCATIONS

SCALE
0 30 60 FEET

IMAGE: ---
X-REF: ---
OFFICE: Pittsburgh, PA
DRAWING NUMBER: 919568-B9

PLOT DATE: 10/14/99
FORMAT REVISION 3/25/99

REVISIONS

REV	DATE	BY	CHK'D	APPR'D	DESCRIPTION/ISSUE

OHM Remediation Services Corp.
PROJECT NO. 919568

DESIGNED BY	B.R.Harris	1/29/99	
DRAWN BY	B.B.O'Connor	10/14/99	
CHECKED BY	K.R.Klinger	10/14/99	
APPROVED BY	L.J.Stearns	10/14/99	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON, D.C.
NAVAL STATION
EFA – CHESAPEAKE
NAVAL TRAINING CENTER
PORT DEPOSIT, MARYLAND

REMOVAL ACTIONS
BUILDING 760 – AUTO HOBBY SHOP
"LEFT–IN–PLACE" SAMPLE LOCATIONS

SCALE: AS SHOWN
SIZE: B
DELIVERY ORDER NO. 137
CONSTR. CONTRACT NO. N62470–93–D–3032
NAVFAC DRAWING NO.
SHEET I.D. RD–4

APPENDIX C
DATA VALIDATION REPORT

DATE: October 13, 1999

SUBJECT: Data Validation for Building 760
Former Naval Training Center-Bainbridge
Port Deposit, Maryland

FROM: Michael J. Lacy, Ph.D.

Michael A Lacy

Field Analytical Services Manager
IT Corporation – Trenton, New Jersey

TO: Mary Cooke – Project Contact
Hazardous Site Cleanup Division, 3HS13

OVERVIEW

One (1) soil sample was analyzed for diesel range total petroleum hydrocarbons by EPA SW-846 Method 8015. This sample was a five point composite sample collected from the UST excavation near Building 760. No site-specific Quality Control samples were analyzed. OHM Analytical Division, located in Findlay, OH, performed the analyses.

SUMMARY

The sample was successfully analyzed.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

No minor problems with the validity of the analytical data were found.

NOTES

No notes are associated with this analysis.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to National Functional Guidelines for Organic Data Review: Multi-Media, Multi-Concentration (OLMO1.0-OLMO1.9) for Semivolatile Organic Compounds. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification
(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation
(Can be used for both positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

Other Codes

Q = No analytical result.

NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Data Summary Table

Site: FNTC - Bainbridge - Building 760 Confirmation Results

Lab: OHM Analytical Division

Reviewer: Michael J. Lacy, Ph.D.

Date: 07 October 1999

Report Number: 622432

Sample I.D.	049	
Matrix	Soil	
Units	mg/kg	
Date Sampled	4/10/97	
Time Sampled	0905	
% Moisture	17	
pH	N/A	
Dilution Factor	1.0	
	Result	VQ
DRO-TPH	18	

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results

1B (GC)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0075 EPA SAMPLE NO.

048

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: _____ Case No.: 19568N SAS No.: _____ SDG No.: Q2F70539

Matrix: (soil/water) SOIL Lab Sample ID: JQ9100F

Sample wt/vol: 30.5 (g/mL) G Lab File ID: SR6174

Level: (low/med) _____ Date Received: 04/11/97

% Moisture: 12 decanted: (Y/N) ___ Date Extracted: 04/11/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/14/97

Injection Volume: _____ (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	3700	U

1B (GC)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

0078 EPA SAMPLE NO.

049

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: _____ Case No.: 19568N SAS No.: _____ SDG No.: Q2F70539

Matrix: (soil/water) SOIL Lab Sample ID: JQ9101F

Sample wt/vol: 30.9 (g/mL) G Lab File ID: SR6175

Level: (low/med) _____ Date Received: 04/11/97

% Moisture: 17 decanted: (Y/N) ___ Date Extracted: 04/11/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/14/97

Injection Volume: _____ (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	18000	

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation

ANALYTICAL DIVISION

Laboratory Analysis

Report(s) #622432

Client: OHM Remediation Services Corp.
Eastern Region (Pittsburgh PA)

Attn: Larry Stearns

Project: Naval Training Center, Port Deposit, MD

Sample(s) Received: April 11, 1997
Order Received: April 11, 1997

Data Due: April 15, 1997
Data Reported: April 15, 1997

Reviewed and Approved by: Joseph A. Hnatow *Date:* May 5, 1997
Joseph A. Hnatow, Laboratory Manager

16406 U.S. Route 224 East ■ P.O. Box 551 ■ Findlay, OH 45839-0551 ■ 419-423-3526

Narrative for SDG # 048

Laboratory: OHM Remediation Services Corp.
Analytical Division

Project #: 19568N

Project Location: Naval Training Center, Port Deposit, MD

Samples in this Sample Delivery Group (SDG):

048 049 051 052 053 054 055

The sample temperature upon receipt by the laboratory was 8°C, that is outside the temperature acceptability range of 2°C to 6°C. Notification of this was communicated to Steve Wurzburger, Mike Lacy and Larry Stearns via the Order Confirmation, faxed on April 14, 1997. No response was received, therefore, the laboratory proceeded with the analytical as requested.

The information listed on the "SDG No." line for FORM's I, II, III and IV represents the lab analytical batch number in place of 048.

CLP Forms and/or analytical requirements do not apply to all Level C type deliverable requirements. Every effort was made to conform to the CLP format and all applicable CLP/Level C forms have been included.

PCBs by GC

Multiple analytical runs were combined and reported on one CLP FORM I PEST data sheet. The chromatograms were arranged with all of the primary analysis presented first followed by the confirmation analytical runs.

Zero of 36 surrogates were outside QC limits, 28 were diluted due to high levels of target analytes. This was confirmed by replicate analysis.

Matrix spike/matrix spike duplicate results are not available due to dilution below detectable levels as a result of high levels of target analytes present in the unspiked sample. Batch acceptance was based on method spike recoveries which were within QC limits.

Zero of 1 method spike recoveries were outside QC limits.

All method blank criteria were met for this SDG.

All initial and continuing calibration criteria were met.

All holding times were met for this SDG.

Total Extractable Hydrocarbons (DRO) by GC

Zero of 12 surrogate recoveries were outside QC limits.

Zero of 2 matrix spike recoveries and zero of 1 matrix RPD's were outside QC limits.

Zero of 1 method spike recoveries were outside QC limits.

All method blank criteria were met for this SDG.

Initial and continuing calibration criteria were met.

All sample holding times were met for this SDG.

Signature: Joseph A Hnatow Name: Joseph A. Hnatow
Date: May 5, 1997 Title: Laboratory Manager

OHM Remediation Services Corp.

LAB COPY
Form 0019
Field Technical Services
Rev. 08/89

CHAIN-OF-CUSTODY RECORD

203127

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: Naval Training Center	PROJECT LOCATION: Port Deposit, MD
PROJ. NO.: 19568	PROJECT CONTACT: Stephan Wurzburger
PROJECT TELEPHONE NO.: 609-588-6356	
CLIENT'S REPRESENTATIVE: Frank Zepka	PROJECT MANAGER/SUPERVISOR: Fred Poulin

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TPH - DRO's	Total solids, pH, Flash, Reactiv. CN & S-2	Full TCLP + Cu & Zn	TCL VOA's, Semis, Pests, PCB's & Herbs	Total CN, Paint Filter, TOX	PCB's			REMARKS
1	049	4/10/97	0905	X		5pt Composite Post-Ex Soil from Excavation at UST near Bldg 760	1-8oz	X								48hr. - Turn
2	050	4/10/97	0930	X		Composite of Soil Stockpile from UST Excavation Near Bldg 760	1-32oz	X	X	X	X	X				5 - day Turn
3	048	4/8/97	1015	X		5pt Composite Post-Ex Soil from Excavation of Diesel Tank Bldg K	1-8oz	X								48hr - Turn
4	051	4/10/97	1150	X		Composite from around Concrete Pad	1-8oz						X			48hr. - Turn
5	052	4/10/97	1155	X		Composite from around Concrete Pad.	1-8oz						X			48hr - Turn
6	053	4/10/97	1200	X		Composite from around Concrete Pad	1-8oz						X			48hr - Turn
7	054	4/10/97	1215		X	Grab Sample from visually contaminated area	1-8oz						X			48hr - Turn
8	055	4/10/97	1225	X		Composite from Stockpiled soil (From Hillside Bldg 629)	1-8oz						X			48hr - Turn.
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1→8	S. Wurzburger	Fed-Ex	4/10/97	1400
2	1-8	FedEx 4577797002	Donita Jensen 6481	4-11-97	1100
3					
4					

REMARKS
No weekend work.
48 hrs is 2-working days.
Fax results to S. Wurzburger @ 410-378-5609
temp 8°C Og/IR

SAMPLER'S SIGNATURE: S. Wurzburger

0097

OVERVIEW

Two (2) soil samples were analyzed for diesel range total petroleum hydrocarbons by EPA SW-846 Method 8015. These samples were five point composite samples collected from the hill adjacent to Building 760. No site-specific Quality Control samples were analyzed. OHM Analytical Division, located in Findlay, OH, performed the analyses.

SUMMARY

All samples were successfully analyzed.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

No minor problems with the validity of the analytical data were found.

NOTES

- The matrix spike and matrix spike duplicate were recovered high due to the presence of target analytes in the spiked sample (056). The laboratory control sample was acceptably recovered. No data qualification is necessary.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to National Functional Guidelines for Organic Data Review: Multi-Media, Multi-Concentration (OLMO1.0-OLMO1.9) for Semivolatile Organic Compounds. The text of this report only addresses items that affect the validity of the data contained therein.

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ATTACHMENT B

Data Summary Forms

Data Summary Table

Site: FNTC - Bainbridge - Building 760 Confirmation Results
Lab: OHM Analytical Division
Reviewer: Michael J. Lacy, Ph.D.
Date: 07 October 1999
Report Number: 9903661

Sample I.D.	056		057	
Matrix	Soil		Soil	
Units	mg/kg		mg/kg	
Date Sampled	4/15/97		4/15/97	
Time Sampled	0830		0845	
% Moisture	12		21	
pH	N/A		N/A	
Dilution Factor	5.0		1.0	
	Result	VQ	Result	VQ
DRO-TPH	21		100	

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results

1B (GC)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
0008
056

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: _____ Case No.: 19568N SAS No.: _____ SDG No.: 056

Matrix: (soil/water) SOIL Lab Sample ID: JQ9186F

Sample wt/vol: 30.2 (g/mL) G Lab File ID: SR6247

Level: (low/med) _____ Date Received: 04/16/97

% Moisture: 12 decanted: (Y/N) ___ Date Extracted: 04/16/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/18/97

Injection Volume: _____ (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	21000	

1B (GC)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0011

057

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: _____ Case No.: 19568N SAS No.: _____ SDG No.: 056

Matrix: (soil/water) SOIL Lab Sample ID: JQ9187F

Sample wt/vol: 30.2 (g/mL) G Lab File ID: SR6254

Level: (low/med) _____ Date Received: 04/16/97

% Moisture: 21 decanted: (Y/N) ___ Date Extracted: 04/16/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/18/97

Injection Volume: _____ (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	DRO(C10 - C21)	100000	

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation

ANALYTICAL DIVISION

Laboratory Analysis

Report(s) #622461

Client: OHM Remediation Services Corp.
Eastern Region (Pittsburgh, PA)

Attn: Larry Stearns

Project: 19568N - Naval Training Center, Port Deposit, MD

Sample(s) Received: April 16, 1997
Order Received: April 16, 1997

Data Due: April 18, 1997
Data Reported: April 18, 1997

Reviewed and Approved by: Joseph A. Hnatow
Joseph A. Hnatow, Laboratory Manager

Date: *May 5, 1997*

Narrative for SDG # 056

Laboratory: OHM Remediation Services Corp.
Analytical Division

Project #: 19568N

Project Location: Naval Training Center, Port Deposit, MD

Samples in this Sample Delivery Group (SDG):

056 057

The sample temperature upon receipt by the laboratory was 3°C, that is inside the temperature acceptability range of 2°C to 6°C. Notification of this was communicated to Steve Wurzburger, Mike Lacy and Larry Stearns via the Order Confirmation, faxed on April 16, 1997. No response was received, therefore, the laboratory proceeded with the analytical as requested.

CLP Forms and/or analytical requirements do not apply to all Level C type deliverable requirements. Every effort was made to conform to the CLP format and all applicable CLP/Level C forms have been included.

Total Extractable Hydrocarbons (DRO) by GC

Zero of 12 surrogate recoveries were outside QC limits.

Two of 2 matrix spike recoveries and zero of 1 matrix RPD's were outside QC limits due to high levels of target analytes present in the unspiked sample. Batch acceptance was based on the method spike recovery which was within QC limits.

Zero of 1 method spike recoveries were outside QC limits.

All method blank criteria were met for this SDG.

Initial and continuing calibration criteria were met.

All sample holding times were met for this SDG.

Signature: Joseph A. Hnatow Name: Joseph A. Hnatow
Date: May 5, 1997 Title: Laboratory Manager

OHM Remediation Services Corp.

LAB COPY
Form 0019
Field Technical Services
Rev. 08/89

CHAIN-OF-CUSTODY RECORD

203128

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: Naval Training Center
PROJECT LOCATION: Port Deposit, MD
PROJ. NO.: 19568
PROJECT CONTACT: Stephan Wurzburger
PROJECT TELEPHONE NO.: 410-378-5086
CLIENT'S REPRESENTATIVE: Frank Zepka
PROJECT MANAGER/SUPERVISOR: Fred Poulin

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): TPH-DRO's

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TPH-DRO's							REMARKS
1	056	4/15/97	0830	X		5pt Composite 2nd Post-Ex Soil Samples from Auto Shop - Top-of-Hill	1-8oz	X							48 hr. Turnaround
2	057	4/15/97	0845	X		5pt Composite 2nd Post-Ex Soil Samples from Auto Shop. Bottom of Hill	1-8oz	X							48 hr Turnaround.
3															
4															
5															
6															
7															
8															
9															
10															

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1→2	S. Wurzburger		4/15/97	1330
2	1-2	FED EX 4597796991	M. Raolabaugh	4/16/97	1042
3					
4					

REMARKS: Fax Results to Stephan Wurzburger @ 410-378-5609.

Temp 3°C
IR

SAMPLER'S SIGNATURE: S. Wurzburger

0033

3C (GC)
SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

0005

Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC

Lab Code: _____ Case No.: 19568N SAS No.: _____ SDG No.: 056

Matrix Spike - EPA Sample No.: 056 Level: (low/med) _____

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
DRO(C10 - C21)	37600	21100	65500	118 *	34-110

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
DRO(C10 - C21)	37900	64800	115 *	2	30	34-110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 1 outside limits
Spike Recovery: 2 out of 2 outside limits

COMMENTS: _____

OVERVIEW

Five (5) soil samples were analyzed for Target Analyte List metals by EPA SW-846 Methods 6010 and 7471. These samples were grab samples collected from the hill adjacent to Building 760. No site-specific Quality Control samples were analyzed. Gascoyne Laboratories, located in Baltimore, MD, performed the analyses.

SUMMARY

All samples were successfully analyzed.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

- Antimony and thallium were recovered low in the matrix spike sample. These results will be qualified low (L or UL).

NOTES

- The method blank contained aluminum (12 mg/kg), iron (11 mg/kg) and zinc (1.5 mg/kg), although all sample concentrations were greater than five (5) times the blank concentrations. Data qualification is not necessary.
- The matrix spike and matrix spike duplicate sample recoveries were not calculated for aluminum and iron, since their concentrations were greater than four (4) times the spike concentrations. Post-digestion spike and spike duplicate analyses of aluminum and iron were acceptable, as was a post-digestion spike of antimony. Additionally, all lab control sample recoveries were acceptable for these analytes. Consequently, no data qualification is necessary for aluminum and iron.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification
(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation
(Can be used for both positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

Other Codes

Q = No analytical result.

NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Data Summary Table

Site: FNTC - Bainbridge - Building 760 Confirmation Results
Lab: OHM Analytical Division
Reviewer: Michael J. Lacy, Ph.D.
Date: 07 October 1999
Report Number: 9903635

Sample I.D.	025-01		025-02		025-03		025-04		025-05	
Matrix	Soil		Soil		Soil		Soil		Soil	
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Date Sampled	6/21/99		6/21/99		6/21/99		6/21/99		6/21/99	
Time Sampled	1240		1255		1310		1325		1340	
% Moisture	22.7		11.5		11.7		18.2		17.4	
pH	N/A		N/A		N/A		N/A		N/A	
Dilution Factor	1.0		1.0		1.0		1.0		1.0	
Analyte	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	VQ
Aluminum	13000		8800		15000		26000		11000	
Antimony	<25	UL	<25	UL	<25	UL	<25	UL	<25	UL
Arsenic	<25	U	<25	U	<25	U	<25	U	<25	U
Barium	68		39		28		140		43	
Beryllium	0.62		0.40		0.30		0.69		0.53	
Cadmium	<2.5	U	<2.5	U	<2.5	U	<2.5	U	<2.5	U
Calcium	1700		460		490		1800		670	
Chromium	19		12		32		52		15	
Cobalt	14		5.9		4.4		30		6.8	
Copper	28		11		13		65		14	
Iron	21000		14000		28000		53000		15000	
Lead	22		9		8		7		8	
Magnesium	2500		1300		1200		4600		1700	
Manganese	450		280		110		850		120	
Mercury	0.04		<0.04	U	0.05		<0.04	U	<0.04	U
Nickel	16		7		10		31		8	
Potassium	570		250		320		580		390	
Selenium	<25	U	<25	U	<25	U	<25	U	<25	U
Silver	<1.0	U	<1.0	U	<1.0	U	<1.0	U	<1.0	U
Sodium	340		160		310		460		170	
Thallium	<120	UL	<120	UL	<120	UL	<120	UL	<120	UL
Vanadium	51		30		50		140		39	
Zinc	95		48		17		49		37	

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results

Gascoyne Laboratories, Inc.

Baltimore, MD 21224

(410) 633-1800

FAX NO.
(410) 633-5443

www.gascoyne.com

REPORT OF ANALYSIS

Report no: **9903533**

Client: **IT/OHM Corporation**

Sample Id: **Submitted samples: 025-01; grab collected on 21-Jun-99(12:40)**
Laboratory Sample Number: 990013684

Parameter	Test Results	Laboratory Reporting Limit	Method	Analyst	Date of Analysis
Mercury(Hg)	0.04 ppm-dwb	0.04 ppm-dwb	EPA-7471A	CSG	30-Jun-99(17:05)
A'minum(Al)	13000 ppm-dwb	50.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:34)
nony(Sb)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Arsenic(As)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Barium(Ba)	68 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Beryllium(Be)	0.62 ppm-dwb	0.25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Cadmium(Cd)	<2.5 ppm-dwb	2.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:34)
Calcium(Ca)	1700 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Chromium(Cr)	19 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Cobalt(Co)	14 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Copper(Cu)	28 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Iron(Fe)	21000 ppm-dwb	50.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:34)
Lead(Pb)	22 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Magnesium(Mg)	2500 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Manganese(Mn)	450 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Nickel(Ni)	16 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Potassium(K)	570 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Selenium(Se)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Silver(Ag)	<1.0 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Sodium(Na)	340 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Thallium(Tl)	<120 ppm-dwb	120 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:34)
Vanadium(V)	51 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)
Zn)	95 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:24)

Please see reverse side for explanation of terms and other information.

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www.gascoyne.com

REPORT OF ANALYSIS

Report no: **9903533**

Client: **IT/OHM Corporation**

Sample Id: **Submitted samples: 025-01; grab collected on 21-Jun-99(12:40)**
Laboratory Sample Number: 990013684

Parameter	Test Results	Laboratory Reporting Limit	Method	Analyst	Date of Analysis
Residue at 105°C	77.3 %-arb	0.01 %-arb	CLP-SOW-ILM04.0	DMW	23-Jun-99(12:30)

Please see reverse side for explanation of terms and other information.

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REPORT OF ANALYSIS

Report no: **9903533**

Client: **IT/OHM Corporation**

Sample Id: **Submitted samples: 025-02; grab collected on 21-Jun-99(12:55)**
Laboratory Sample Number: 990013685

Parameter	Test Results	Laboratory Reporting Limit	Method	Analyst	Date of Analysis
Mercury(Hg)	<0.04 ppm-dwb	0.04 ppm-dwb	EPA-7471A	CSG	30-Jun-99(17:07)
Aluminum(Al)	8800 ppm-dwb	50.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:38)
Antimony(Sb)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Arsenic(As)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Barium(Ba)	39 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Beryllium(Be)	0.40 ppm-dwb	0.25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Cadmium(Cd)	<2.5 ppm-dwb	2.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:38)
Calcium(Ca)	460 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Chromium(Cr)	12 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Cobalt(Co)	5.9 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Copper(Cu)	11 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Iron(Fe)	14000 ppm-dwb	50.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:38)
Lead(Pb)	9 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Magnesium(Mg)	1300 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Manganese(Mn)	280 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Nickel(Ni)	7 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Potassium(K)	250 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Selenium(Se)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Silver(Ag)	<1.0 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Sodium(Na)	160 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Thallium(Tl)	<120 ppm-dwb	120 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:38)
Vanadium(V)	30 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)
Zinc(Zn)	48 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:29)

Please see reverse side for explanation of terms and other information.

Gascoyne Laboratories, Inc.

Baltimore, MD 21224

(410) 633-1800

FAX NO.
(410) 633-5443

www.gascoyne.com

REPORT OF ANALYSIS

Report no: **9903533**

Client: **IT/OHM Corporation**

Sample Id: **Submitted samples: 025-02; grab collected on 21-Jun-99(12:55)**
Laboratory Sample Number: 990013685

Parameter	Test Results	Laboratory Reporting Limit	Method	Analyst	Date of Analysis
Residue at 105°C	88.5 %-arb	0.01 %-arb	CLP-SOW-ILM04.0	DMW	23-Jun-99(12:30)

Please see reverse side for explanation of terms and other information.

Gascoyne Laboratories, Inc.

Baltimore, MD 21224

(410) 633-1800

FAX NO.
(410) 633-5443

www.gascoyne.com

REPORT OF ANALYSIS

Report no: **9903533**

Client: **IT/OHM Corporation**

Sample Id: **Submitted samples: 025-03; grab collected on 21-Jun-99(13:10)**
Laboratory Sample Number: 990013686

Parameter	Test Results	Laboratory Reporting Limit	Method	Analyst	Date of Analysis
Mercury(Hg)	0.05 ppm-dwb	0.04 ppm-dwb	EPA-7471A	CSG	30-Jun-99(17:10)
Aluminum(Al)	15000 ppm-dwb	50.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:41)
Antimony(Sb)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Arsenic(As)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Barium(Ba)	28 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Beryllium(Be)	0.30 ppm-dwb	0.25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Cadmium(Cd)	<2.5 ppm-dwb	2.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:41)
Calcium(Ca)	490 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Chromium(Cr)	32 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Cobalt(Co)	4.4 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Copper(Cu)	13 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Iron(Fe)	28000 ppm-dwb	50.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:41)
Lead(Pb)	8 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Magnesium(Mg)	1200 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Manganese(Mn)	110 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Nickel(Ni)	10 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Potassium(K)	320 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Selenium(Se)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Silver(Ag)	<1.0 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Sodium(Na)	310 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Thallium(Tl)	<120 ppm-dwb	120 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:41)
Vanadium(V)	50 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)
Zinc(Zn)	17 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:33)

Sample/Test Notes:
Method Blank contained a calculated result of 1.5 ppm Zinc.

Gascoyne Laboratories, Inc.

Baltimore, MD 21224

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REPORT OF ANALYSIS

Report no: **9903533**

Client: **IT/OHM Corporation**

Sample Id: **Submitted samples: 025-03; grab collected on 21-Jun-99(13:10)**
Laboratory Sample Number: 990013686

Parameter	Test Results	Laboratory Reporting Limit	Method	Analyst	Date of Analysis
Residue at 105°C	88.3 %-arb	0.01 %-arb	CLP-SOW-ILM04.0	DMW	23-Jun-99(12:30)

Gascoyne Laboratories, Inc.

Baltimore, MD 21224

(410) 633-1800

FAX NO.
(410) 633-5443

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REPORT OF ANALYSIS

Report no: **9903533**

Client: **IT/OHM Corporation**

Sample Id: **Submitted samples: 025-04; grab collected on 21-Jun-99(13:25)**
Laboratory Sample Number: 990013687

Parameter	Test Results	Laboratory Reporting Limit	Method	Analyst	Date of Analysis
Mercury(Hg)	<0.04 ppm-dwb	0.04 ppm-dwb	EPA-7471A	CSC	30-Jun-99(17:12)
A' ninum(Al)	26000 ppm-dwb	50.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:08)
, nony(Sb)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Arsenic(As)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Barium(Ba)	140 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Beryllium(Be)	0.69 ppm-dwb	0.25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Cadmium(Cd)	<2.5 ppm-dwb	2.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:08)
Calcium(Ca)	1800 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Chromium(Cr)	52 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Cobalt(Co)	30 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Copper(Cu)	65 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Iron(Fe)	53000 ppm-dwb	50.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:08)
Lead(Pb)	7 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Magnesium(Mg)	4600 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Manganese(Mn)	850 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Nickel(Ni)	31 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Potassium(K)	580 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Selenium(Se)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Silver(Ag)	<1.0 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Sodium(Na)	460 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Thallium(Tl)	<120 ppm-dwb	120 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:08)
Va adium(V)	140 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)
Z Zn)	49 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:49)

Please see reverse side for explanation of terms and other information.

Gascoyne Laboratories, Inc.

Baltimore, MD 21224

(410) 633-1800

FAX NO.
(410) 633-5443

www.gascoyne.com

REPORT OF ANALYSIS

Report no: **9903533**

Client: **IT/OHM Corporation**

Sample Id: **Submitted samples: 025-04; grab collected on 21-Jun-99(13:25)**
Laboratory Sample Number: 990013687

Parameter	Test Results	Laboratory Reporting Limit	Method	Analyst	Date of Analysis
Residue at 105°C	81.8 %-arb	0.01 %-arb	CLP-SOW-ILM04.0	DMW	23-Jun-99(12:30)

Please see reverse side for explanation of terms and other information.

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REPORT OF ANALYSIS

Report no: **9903533**

Client: **IT/OHM Corporation**

Sample Id: **Submitted samples: 025-05; grab collected on 21-Jun-99(13:40)**
Laboratory Sample Number: 990013688

Parameter	Test Results	Laboratory Reporting Limit	Method	Analyst	Date of Analysis
Mercury(Hg)	<0.04 ppm-dwb	0.04 ppm-dwb	EPA-7471A	CSG	30-Jun-99(17:20)
Aluminum(Al)	11000 ppm-dwb	50.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:45)
Antimony(Sb)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Arsenic(As)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Barium(Ba)	43 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Beryllium(Be)	0.53 ppm-dwb	0.25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Cadmium(Cd)	<2.5 ppm-dwb	2.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:45)
Calcium(Ca)	670 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Chromium(Cr)	15 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Cobalt(Co)	6.8 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Copper(Cu)	14 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Iron(Fe)	15000 ppm-dwb	50.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:45)
Lead(Pb)	8 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Magnesium(Mg)	1700 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Manganese(Mn)	120 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Nickel(Ni)	8 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Potassium(K)	390 ppm-dwb	5.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Selenium(Se)	<25 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Silver(Ag)	<1.0 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Sodium(Na)	170 ppm-dwb	25 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Thallium(Tl)	<120 ppm-dwb	120 ppm-dwb	EPA-6010B	PDB	24-Jun-99(20:45)
Vanadium(V)	39 ppm-dwb	0.5 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)
Zinc(Zn)	37 ppm-dwb	1.0 ppm-dwb	EPA-6010B	PDB	24-Jun-99(21:37)

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REPORT OF ANALYSIS

Report no: **9903533**

Client: **IT/OHM Corporation**

Sample Id: **Submitted samples: 025-05; grab collected on 21-Jun-99(13:40)**
Laboratory Sample Number: 990013688

Parameter	Test Results	Laboratory Reporting Limit	Method	Analyst	Date of Analysis
Residue at 105°C	82.6 %-arb	0.01 %-arb	CLP-SOW-ILM04.0	DMW	23-Jun-99(12:30)

Please see reverse side for explanation of terms and other information.

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

Gascoyne Laboratories, Inc.

Baltimore, MD 21224

(410) 633-1800

FAX NO.
(410) 633-5443

www.gascoyne.com

REPORT OF ANALYSIS

Report No: 9903533

IT/OHM Corporation
2790 Mosside Blvd.
Monroeville, PA 15146

Attn: Larry Stearns

This report of analysis contains test results for the following samples submitted to Gascoyne Laboratories, Inc.:

Client Sample I.D.,	Sample Type	Lab Sample No.	Received by Gascoyne
025-01; grab, 21-Jun-1999(1240)	Soil	990013684	22-Jun-1999
025-02; grab, 21-Jun-1999(1255)	Soil	990013685	22-Jun-1999
025-03; grab, 21-Jun-1999(1310)	Soil	990013686	22-Jun-1999
025-04; grab, 21-Jun-1999(1325)	Soil	990013687	22-Jun-1999
025-05; grab, 21-Jun-1999(1340)	Soil	990013688	22-Jun-1999

This Report contains the following:

A) Cover Letter
B) Test Results
C) Chain-of-Custody

All samples were analyzed following EPA protocols and other recognized methodologies as specified in the report. All laboratory Quality Control(QC) data associated with this report are within established control limits unless otherwise noted in this report.

Gascoyne Laboratories, Inc. laboratory identification numbers:

Maryland :109; Delaware: MD015; Virginia: 00152; New Jersey: 60637; Pennsylvania: 68-339; New York: 11158; A2LA: 410.01; AIHA:8885; US Army Corps of Engineers; and EPA ICR: ICRMD003.

The analyses specified in this report may or may not be included in the scopes of the above listed certifications.

This cover page is an integral part of this report and must be included with all copies of this report.

James H Newman — 7/7/99

Final report reviewed by: James H. Newman, Client Services Manager — Report issue date

Please see reverse side for explanation of terms and other information.

CASE NARRATIVE
GASCOYNE LABORATORIES, INC.

Report Number: 9903533-QC
Report To: OHM/IT
2790 Mosside Blvd.
Monroeville, PA 15146

July 6, 1999

Project: Bainbridge 919568

Date Samples Received: June 22, 1999

Sample Numbers	Sampling Date	Matrix	Laboratory ID
025-01	06/21/99	Soil	990013684
025-02	06/21/99	Soil	990013685
025-03	06/21/99	Soil	990013686
025-04	06/21/99	Soil	990013687
025-05	06/21/99	Soil	990013688

The samples were collected by the client and were transported to Gascoyne Laboratories via Gascoyne Laboratories courier. The courier relinquished the samples to Gascoyne personnel in the sample control department for log-in. All sample containers were checked and it was noted that the containers were in satisfactory condition.

The following requested test parameters were performed by Gascoyne Laboratories:

* TAL Metals analysis, using EPA Methods 6010B and 7471A

Reference: Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Office of Solid Waste and Emergency Response, USEPA, Wash., DC, November 1986; Final Update I (07/92), Final Update II (09/94), Final Update III (12/96)

The client requested Matrix Spike/ Matrix Spike Duplicate analysis for sample 990013687.

All laboratory quality control parameters were met with the following exceptions:

1. Matrix Spike and Matrix Spike Duplicate recoveries, sample 990013687 - EPA Method 6010B, Aluminum and Iron analysis: The recoveries of the Matrix Spike and Matrix Spike Duplicate for both elements were outside the limits of acceptability. The concentration of the spiking solution added to the sample was inappropriate for the amount of target analyte in the sample. The sample was post digestion spiked and the recoveries were within limits of acceptability for both elements. The recovery of the Laboratory Control Sample was acceptable for both elements. The sample data was not flagged.

2. Matrix Spike and Matrix Spike Duplicate recoveries, sample 990013687 - EPA Method 6010B, Antimony analysis: The recoveries of the Matrix Spike and Matrix Spike Duplicate were outside limits of acceptability. The sample was post digestion spiked and the recovery was within limits of acceptability. The recovery of the Laboratory Control Sample was acceptable. The sample data was not flagged.

3. Laboratory Method Blank contamination was noted in the following analyses: Aluminum at 12 ppm, Iron at 11 ppm, and Zinc at 1.5 ppm. The sample data was flagged with the Method Blank result only when the data was within a factor of twenty of the reporting limit.

Enclosed are the following:

1. Report of Analysis
2. Chain-of-Custody and Cooler Receipt Form
3. Case Narrative
4. Quality Control Data Package – 87 pages

GASCOYNE LABORATORIES, INC.

June A. Main
Quality Assurance Officer

14/6/22/99

Cooler #291 Temp = K 2.2

IT NATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD* 15

Reference Document No. 359814

Page 1 of 1

9903533

Project Name/No.[1] Bainbridge 919568 | Samples Shipment Date[7] 6/22/99 | Bil to:[5] IT corp, 2790 Mosside Blvd, Monroeville, PA 15146

Sample Team Members[2] Treater/Klinger | Lab Destination[8] Gascoyne Labs 410-633-1800

Profit Center No.[3] ——— | Lab Contact[9] Tina Kelly @ 134

Project Manager[4] L. Stearns | Project Contact/Phone[12] 410-378-3223 Dick Treater | Report to:[10] 412-380-6099 Fax to Larry Stearns, IT Corp, 2790 Mosside Blvd, Monroeville, PA 15146

Purchase Order No.[6] 919568701 | Carrier/Waybill No.[13] Lab pickup

Required Report Date[11] 7 days - 7/1/99

ONE CONTAINER PER LINE

Sample Number[14]	Sample Description/Type[15]	Date/Time Collected[16]	Container Type[17]	Sample Volume[18]	Preservative[19]	Requested Testing Program[20]	Condition on Receipt[21]	Disposal Record No.[22]
136884 025-01	Grab Bldg 760 soil Center hillside (6-12")	6/21/99 1240	1-4oz	4oz	4°C	TAL Metals SW-846, Meth 6010/7471	T. Shiels	
136885 025-02	Grab Bldg 760 soil NE side hillside (6-12")	6/21/99 1255					FOR LAB USE ONLY	
136886 025-03	Grab Bldg 760 soil SE side hillside (6-12")	6/21/99 1310						
136887 025-04	Grab Bldg 760 soil SW side hillside (6-12")	6/21/99 1325						MS/MSD
136888 025-05	Grab Bldg 760 soil NW side hillside (6-12")	6/21/99 1340					FOR LAB USE ONLY QC 3	

Special Instructions:[23] Fax prelim results to Larry Stearns @ 412-380-6099

Possible Hazard Identification:[24] Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal:[25] Return to Client ☐ Disposal by Lab ☒ Archive ____ (mos.)

Turnaround Time Required:[26] Normal ☐ Rush ☒ 7 day

QC Level:[27] I ☐ II ☐ III ☒ Project Specific (specify): NAVY NFESC Level C

1. Relinquished by[28] (Signature/Affiliation) Dick Treater / Dick Treater/IT	Date: 6/22/99 Time: 1500	1. Received by[28] (Signature/Affiliation) Melanie Bryd	Date: 6/23/99 Time: 1515
2. Relinquished by (Signature/Affiliation) Melanie Bryd	Date: 6/22/99 Time: 1613	2. Received by (Signature/Affiliation) Melanie Hawkhurst	Date: 6-23-99 Time: 1613
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments:[29] Fax results also to Dick Treater 410-378-3232 and Frank Zepka 202-433-7018

MCA 3/15/91

White: To accompany samples. Yellow: Field copy. *See back of form for special instructions.

GASCOYNE LABORATORIES, INC. BALTIMORE, MD 21224

REPORT NO: 9903533
REPORT TO: OHM/IT

METHOD: EPA 6010B
MATRIX: SOLID

TOTAL METALS ANALYTE	METHOD BLANK	LCS	LCS LIMITS %	MS	MSD	SPIKE AMOUNT	MS/MSD LIMITS %	RPD	RPD LIMITS %	POST DIGESTION SPIKE % RECOV.	SPK AMT.	LIMITS %
ALUMINUM	12	91	66-134	**	**	600	75-125	NA	20	104, 106	6000	75-125
ANTIMONY	<25	98	13-186	22	20	100	75-125	10	20	84	100	75-125
ARSENIC	<25	99	62-138	89	85	100	75-125	5	20	92	100	75-125
BARIUM	<0.5	98	66-134	82	89	100	75-125	8	20	90	100	75-125
BERYLLIUM	<0.25	106	72-128	98	100	100	75-125	2	20	99	100	75-125
CADMIUM	<0.5	96	74-124	86	87	100	75-125	1	20	88	100	75-125
CALCIUM	<25	92	70-130	92	96	2600	75-125	4	20	96	2600	75-125
CHROMIUM	<1	102	69-131	94	97	100	75-125	3	20	96	100	75-125
COBALT	<0.5	97	70-130	87	90	100	75-125	3	20	90	100	75-125
COPPER	<0.5	100	71-128	92	97	100	75-125	5	20	94	100	75-125
IRON	11	87	53-146	**	**	600	75-125	NA	20	89, 94	6000	75-125
LEAD	<5	100	68-132	88	90	100	75-125	2	20	88	100	75-125
MAGNESIUM	<5	92	73-126	87	95	2600	75-125	9	20	94	2600	75-125
MANGANESE	<0.5	102	78-122	82	88	1100	75-125	7	20	92	1100	75-125
NICKEL	<1	94	56-144	88	90	100	75-125	2	20	88	100	75-125
POTASSIUM	<5	94	64-136	90	93	2600	75-125	3	20	92	2600	75-125
SELENIUM	<25	104	74-126	84	86	100	75-125	2	20	90	100	75-125
SILVER	<1	102	71-128	90	92	10	75-125	2	20	92	10	75-125
SODIUM	<25	100	68-133	91	93	2600	75-125	2	20	92	2600	75-125
THALLIUM	<25	85	57-142	71	75	100	75-125	5	20	84	100	75-125
VANADIUM	<0.5	100	68-132	89	95	100	75-125	7	20	95	100	75-125
ZINC	1.5	96	76-124	87	90	100	75-125	3	20	89	100	75-125

Notes:
(1) Results expressed as ppm-dry weight basis.
(2) Sample ID: 990013687
(3) LCS source: ERA 239
(4) ** Inappropriate MS/MSD spike amounts. Post digestion spike and LCS recoveries acceptable. Sample data not flagged.

METHOD: EPA 7471A
MATRIX:SOLID

TOTAL METALS ANALYTE	METHOD BLANK	LCS	LCS LIMITS %	MS	MSD	SPIKE AMOUNT	MS/MSD LIMITS %	RPD	RPD LIMITS %
MERCURY	<0.04	94	54-146	121	107	0.3	70-130	12	30

Notes:
(1) Results expressed as ppm.
(2) Sample ID: 990013687
(3) LCS source: ERA 239